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(57) Abstract:

Problem to be solved: To provide an information transmitting system which can more easily obtain information.

Solution: An information supplier emits broadcasting information 1010 by using the radio of FM broadcasting and the like from a broadcasting station 1000. The emitting destinations of the radio wave are many and unspecified users 1300, and the content of information are all information on the geographical situation of a city concerned. Individual information includes a data type showing the type of information.

The type of information which the user himself requires is previously registered in a portable terminal 1200 that the user 1300 has by the user 1300. When the portable terminal 1200 receives information, a program for collating the data type in received information with the type of registered and required information, for storing matched information in the portable terminal 1200 when matched information are generated, for displaying them on a display screen or for giving an alarm so as to notify effect that required information is generated is started.

[Claims]

[Claim 1]

An information transmitting system provided with the sending office characterized by including the following which disseminates information by broadcast, and a receiving set which receives information disseminated from this sending office, kind data in which the mentioned above sending office expresses a kind of contents of the information concerned, a receiver which disseminates information which has the display information displayed when the information concerned is chosen, and the mentioned above receiving set receives information according to broadcast from the mentioned above sending office, a kind of information specified preliminary, a selecting means which chooses only information which has kind data showing a kind which compared a kind which kind data which received information has expresses, and was specified preliminary, and a means to perform processing which becomes settled according to a kind of the information concerned to information with this selected selecting means.

[Claim 2] An information transmitting system characterized by that processing which becomes settled according to a kind of the mentioned above information in the information transmitting system according to claim 1 is a display or/and memory of the information concerned.

[Claim 3] The information transmitting system according to claim 1 including a memory means that stores information as which the mentioned above sending office sent difference information for updating information, the mentioned above receiver received difference information sent by the mentioned above sending office, and the mentioned above receiving set was inputted preliminary, an update means which updates information stored by the mentioned above memory means by received difference information.

[Claim 4] An information transmitting system characterized by that the mentioned above receiving set has a connecting means with transceiving equipment in the information transmitting system according to claim 1.

[Claim 5] An information transmitting system characterized by that the mentioned above sending office disseminates information equivalent to ID or ID of information origin for performing communication to information origin using the mentioned above transceiving equipment in the information transmitting system according to claim 4.

[Claim 6] An information transmitting system characterized by that a kind of the mentioned above information specified preliminary is specified by user in the information transmitting system according to claim 1.

[Claim 7] An information transmitting system characterized by that the mentioned above receiving set has a means to perform processing which informs generating of information outside at the time of reception of information, in the information transmitting system according to claim 6 according to a kind of the mentioned above information specified preliminary.

[Claim 8] The information transmitting system according to claim 1 including a memory means with which the mentioned above sending office sends a coordinate value on a map of information origin on information, and the mentioned above receiving set remembers map data, a displaying means which displays a mark on a position on a map which is equivalent to the mentioned above coordinate value with a map.

[Claim 9] An information transmitting system characterized by that the mentioned above sending office disseminates information which has the manual which information origin on the information concerned programmed in the information transmitting system according to claim 1 and the mentioned above receiving set operates according to the mentioned above manual including a receptionist procedure of a user's input.
[Claim 10] An information transmitting system characterized by that a selecting means of the mentioned above receiving set certainly transmits generating of information outside regardless of a kind of information specified preliminary, when the mentioned above sending office disseminates information, including emergency intelligence of a disaster, etc., which certainly needs to be transmitted to a user in the information transmitting system according to claim 1.
[Claim 11] An information transmitting system at least when absolute values, such as the amount of emergency intelligence metallurgy, such as a disaster, are important information in the information transmitting system according to claim 2 characterized by that the mentioned above sending office does not send difference information but sends the information independent concerned by completed information form which can transmit information.

[Claim 12] An information transmitting system when the mentioned above difference information is performed by addition of a plurality of hierarchies' difference information in the information transmitting system according to claim 2 characterized by that the former hierarchy's difference information is included in the next hierarchy's difference information.

[Claim 13] A receiving set including a receiver which receives information by broadcast from the sending office, a kind of information specified preliminary, a selecting means which chooses only information which has kind data showing a kind which compared a kind which kind data which received information has expresses, and was specified preliminary, a means to perform processing which becomes settled according to a kind of the information concerned to information with this selected selecting means.

[Claim 14] A receiving set characterized by that processing which becomes settled according to a kind of the mentioned above information in the receiving set according to claim 13 is a display or/and memory of the information concerned.

[Claim 15] The receiving set according to claim 13 including a memory means which stores information as which the mentioned above receiver received difference information for updating information, and the mentioned above receiving set was inputted preliminary, an update means which updates information stored by the mentioned above memory means by received difference information.

[Claim 16] A receiving set including a connecting means with transceiving equipment in the receiving set according to claim 13.

[Claim 17] A receiving set receiving information which is equivalent to ID or ID of information origin for performing communication to information origin using the mentioned above transceiving equipment in the receiving set according to claim 16.

[Claim 18] A receiving set characterized by that a kind of the mentioned above information specified preliminary is specified by user in the receiving set according to claim 13.

[Claim 19] A receiving set including a means to perform processing which informs generating of information outside in the receiving set according to claim 18 according to a kind of the mentioned above information specified preliminary at the time of reception of information.

[Claim 20] The receiving set according to claim 13 including a means to receive a coordinate value on a map of information origin on information, a memory means which stores map data, and a displaying means which displays a mark on a position on a map which is equivalent to the mentioned above coordinate value with a map.

[Claim 21] The receiving set according to claim 13 including a means to receive information which has the manual which information origin on information programmed, a means to operate according to the mentioned above manual including a receptionist procedure of a user's input.

[Claim 22] A receiving set characterized by that a selecting means of the mentioned above receiving set certainly transmits generating of information outside regardless of a kind of information specified preliminary, when information, including emergency intelligence of a disaster, etc., which certainly needs to be transmitted to a user is received in the receiving set according to claim 13.

[Claim 23] A selection method of information characterized by certainly transmitting generating of information outside regardless of a kind of the mentioned above information specified preliminary, when choosing information on a kind specified preliminary, and it transmits outside and information, including emergency intelligence of a disaster, etc., which certainly needs to be transmitted to a user is received.

[Detailed description of the invention]

[0001] [Industrial Application] This invention relates to art for information to come to hand during going out with respect to the function which provides, delivers and receives information especially using a personal digital assistant device (personal digital assistant).

[0002] [Description of the prior art] When people walk along a town for the purpose, such as shopping, there are the position of a store etc., the information on handling items, etc. incidental to the geographic information of a town and geographic information as required information. Means to grasp the situation of a town using the map generally supplied in paper, and to grasp the more detailed information on a store using a special magazine etc. have been taken. The general navigation system especially as instrument mounting accompanies geographic information, the information on the restaurant of every place, a store, etc. is provided using information media like CD-ROM, and a user can know geographic information by reproducing this. However, the information indicated by the medium that comes to hand preliminary like a magazine or CD-ROM is a thing of at least several hours or more ago, and it is difficult to obtain the newest geographic information. Corresponding to this, the system called ATIS (Advanced Traffic Information Service) exists as a system which transmits especially the confusion situation of a road in real time.

This connects a mounted navigation system and a cellular phone, is asking the situation of the interruption road by confusion, construction, etc. of a road to Japan Road Traffic Information Center using a cellular phone and can obtain the information on the newest road state.

[0003] [Problems to be solved by the invention] However, in order for this method to obtain information, a user needs to access an information provider, and this access needs to occupy a circuit by 1 to 1 in order to use a telephone, and it requires the cost for access. Unless access is applied, there is a problem that it is impossible for information to come to hand, and in order to make it possible for information to come to hand simpler, it is necessary to solve this technical problem.

[0004] In order for information to come to hand, a user does not need to access an information provider, and does not need to occupy a circuit by 1 to 1, and an object of this invention is to provide the information transmitting system which can be come to hand by information, without the cost for access starting.

[0005] [Means for solving the problem] In order to solve this technical problem, in this invention, correspondence procedures which are communications of one way and many and unspecified partners instead of 1 user occupancy circuit of 1 to 1 like a telephone line, such as broadcast, are used as a dispatching means of information. A reception means to receive chooses information which an addressee needs among received information, and has a means to start a program specified when required information occurred.

[0006] [Function] An information provider disseminates information using electric waves, such as FM broadcasting. The calling destinations of this electric wave are many and unspecified addressees, and the contents of that information are all the information about the geography situation of an applicable town. Information includes the data type which shows the kind of the information in the format. The addressee registers the classification of own required information into the personal digital assistant which an addressee has preliminary. If the data type in the information received when the personal digital assistant received information, and the classification of the required information which the addressee registered are compared and what agreed occurs, a program which informs that sounded memory or alarm to the memory storage of the terminal unit, and information required for an addressee generated the information starts.

[0007] [Example] Next, the example of the information transmitting system by this invention, a terminal unit, and an information selection method is described using drawings.

[0008] Drawing 1 is a block diagram showing the composition of the whole information transmitting system by this invention.

The broadcasting information 1010 disseminated from the broadcasting station 1000 which disseminates information is information which uses the sound multiplex channel of FM broadcasting, etc. and which is transmitted to one way and many and unspecified partners. The map information 1100 of the town is preliminary inputted into the personal digital assistant 1200 which the user 1300 owns using the IC card etc. The map of a town can be displayed now on a display. And the broadcasting information 1010 which the broadcasting station 1000 broadcasts that this personal digital assistant 1200 is can be received, and the user 1300 can hear the usual audio broadcast using the headphone 1500. All the information that includes here the information about a town, for example, the goods currently sold at the store, the information on a restaurant, etc., in the broadcasting information 1010 is contained. If this broadcasting information 1010 is received, the personal digital assistant 1200 will select the information which the user 1300 wants from the received information, and will operate informing a user about generating of information, and its contents etc. As an example of the operation, using the cellular phone 1400 linked to the personal digital assistant 1200, the dispatch origin of information is telephoned, the latest information can be obtained directly or purchase, a reservation of a meal, etc. can be operated.

[0009] Drawing 2 is a block diagram showing the flow of the information inside the personal digital assistant used with the information transmitting system by this invention. A required recovery is performed and the broadcasting information in drawing 1 is inputted into the inside of a personal digital assistant as the transmitted data 2101, after being received by the personal digital assistant. Although transmitted data include various kinds of information like explanation of drawing 1, the type information showing the kind of information is included in the inside of the information. This is decoded by the type information reading 2100, and classification control lead 2102 for directing the operation according to the classification of information is sent. The transmitted data 2101 are inputted into the filter 2000 after type information is read. The filter 2000 classifies transmitted data according to directions of classification control lead 2102. It stores to the memory storage 2300 and display information and the information which should be carried out are specifically passed with the viewer 2200, and information is sorted out so that unnecessary information may not go to a user by throwing away the other information. The filter 2000 gives the directions for specifying display information and the information which should be carried out with the viewer 2200 to the viewer 2200 as classification control lead 2103.

The information which the user remembered by the memory storage 2300 needs is sent to the viewer 2200. The viewer 2200 outputs the information which should be displayed as the display information 2201 in response to classification control lead 2103 given from the filter 2000. The command from the request switch from the timer and user who is not represented here, and when information is immediately requested to a user as a display or a user wanting to read information through a display and fixed time according to classification control lead 2102, operation of displaying for the first time is performed. Memory of a time signal, the unnecessary display 2001 is directly sent to the viewer 2200, without going via the memory storage 2300, and a user is provided with it as the display information 2201 instancy in this case. The type information reading 2100 in this block diagram, the filter 2000, and the viewer 2200 are realizable by executing the program which was stored in the memory later mentioned in explanation of drawing 4 and which is not represented in CPU.

[0010] The example of the contents of the information which the information transmitting system by this invention transmits is shown on drawing 3. The data transmitting 3000 expresses one record in the transmitted data 2101 in drawing 2. The contents of the example of the data transmitting 3000 based on this invention are constituted by the header 3010, the data type 3020, the data attribute 3030, the data length 3040, the data body 3050 and the parity 3060. The header 3010 is a unique code which does not exist in other items which constitute the data transmitting 3000. A receiver can check the position of a header certainly. The data type following the header 3010 expresses the kind of this data transmitting. The classification which also attains to the classification about the information about ways and stores, such as emergency intelligence, a traffic information, and gentleman western style of dress, as show type information to 3021, and concrete goods is performed. The filter explained by drawing 2 operates using this classification, and a user selects required information. The data attribute 3030 shows the attribute of the data body in this data transmitting 3000. As shown on 3031, attribution information shows the contents of the data body, and when a data body is text format, it is a case where manuals, such as a reservation procedure etc. of the restaurant case and mentioned later in which the picture is attached, are attached. Next, in order to confirm whether the data transmitting 3000 is received certainly following the data length 3040 which shows the length of the data body which is the text in the data transmitting 3000, and the data body 3050, the parity 3060 which shows total of the character code from a data type to a data body is added, and one record of the data transmitting 3000 is completed.

Here, as for the data transmitting 3000 based on this example, since the length of the data body 3050 is variable length, the whole length is also variable length. If the same record is made into the method which carries out multiple-times repetition transmission by making the length of the data transmitting 3000 into fixed length here, a receiver is dividing into the length of one record from there, receiving data, and detecting the header 3010, even if it begins reception, for example from a data attribute in the middle of the data transmitting 3000, data can be rearranged and not the reception from a header but the reception from the middle of a record can complete reception of one record only by reception of 1 record length.

[0011] The example of the contents of the data body 3050 is shown on the data body information 3051. The icon design of the store displayed on a map, the text header that shows the head of a text, when the text body which indicated guidance at a store, and a picture exist, they are the picture header which shows the head of image data and the length of image data, an image data body, a procedure header that shows the head of procedure data, and procedure data. Although procedure data explains the operation in drawing 7, here, when the telephone is connected to setting out of the following procedure performed when the button specified in the call of the function which displays the window which has the message specified fundamentally, and the window is pushed, and a personal digital assistant, it has a call of a function, such as accessing a host, telephoning automatically. Although the personal digital assistant itself has each function as a library and they perform operation that suited the hardware of each personal digital assistant, and software, the access mode is unified and it has composition which can perform the procedure data which received any personal digital assistants.

[0012] Drawing 4 is a block diagram showing the hardware constitutions of the personal digital assistant by this invention. Focusing on CPU4000, around the bus 4050, the headphone 4091 for hearing the means of communication 4081, such as the memory 4010, the display 4020, touch-panel I/F4030, IC card I/F4040, the radio 4071 and the demodulator circuit 4070 of an input signal, and a telephone, and strange and a demodulator circuit 4080, and the received broadcast, the electronic speech circuit 4092 for making it sink below the sound output means 4090 and a message to a sound and providing a user with them is installed.

[0013] The acquisition information 4012 chosen as the memory 4010 using the filter information 4011 later mentioned by drawing 5 and this filter information is stored. The display 4020 displays a map and the information about a store on a user. In this example, the input from the user to a terminal unit is provided with touch-panel I/F4030 for it using a display and the touch panel. This just performs operation also with same keyboard and mouse like the usual personal computer. It uses for IC card I/F inputting the map information explained by drawing 1.

[0014] The broadcasting information inputted into a terminal is detected with the radio 4071, and is changed into a digital signal in the demodulator circuit 4070. Although it has composition which audio broadcast also returns a digital signal to an audio signal using the sound output means 4090, and hears by the headphone 4091 that it is also corresponding to the case where it is sent in digitally in this example, the signal detected with the radio 4071 may be heard directly by the headphone 4091 through the amplifier that is not represented. The digital signal to which it restored in the demodulator circuit 4070 is compared with the filter information in the memory 4010, and only required information is chosen, the acquisition information 4012 stores or it is displayed on the display 4020. The case of the information which requires emergency can pass sounds, such as alarm and a message, to the headphone which the user is hearing not only using a display on the display 4020, but using the electronic speech circuit 4092. When a user wants to connect with information origin according to the information which came to hand, it can communicate via strange and a demodulator circuit to the means of communication 4081 of a cellular phone, a public telephone, etc.

[0015] Drawing 5 is an explanatory view showing operation with the structure of the filter of the personal digital assistant by this invention. To the filter table 5000, a filter is indicated in order of the priority. To the 0th, the emergency intelligence certainly used for the report of a disaster, etc. is indicated, and this is taken as the structure which cannot move in other order at it. 1st next arranges in order the keyword which a user wishes. In this case, since a user wants to do some shopping in order of a hat and an umbrella in a town, user thinks the information about a hat and an umbrella as important. Next, it ranks with the information on the traffic information, the bazaar, and shoes in which the information on the way of the dead end by road repairing etc., etc. are shown. All the information indicated to this filter table is stored in the memory in drawing 4. The event threshold 5010 that shows the specific place in the filter table 5000 exists. An event threshold is a threshold which shows that some procedures, such as informing not only memory of the information on a memory, but generating (event) of a user's information, are started, when the information on the priority more than this threshold is received. In this example, the event threshold 5010 is installed under the 1st hat. If the information about a hat occurs, the event notification window 5030 will open on the terminal display screen 5020, and the information about the purport that the information about a hat occurred to the user, and the store received collectively will be transmitted to it. The event threshold 5010 is made into the structure which cannot be installed above the 0th emergency intelligence and is considering generating of emergency intelligence as the composition certainly transmitted to a user. The type information indicated to the filter table 5000 can also input the current position of a personal digital assistant as a keyword automatically from the device which a user does a direct entry and also detects places, such as GPS (Global Positioning System). The procedure of transfer of the information on the state of emergency which this mentions later also giving priority to the state of emergency of the terminal neighborhood, and receiving it can be stepped on. Setting out of classification may be specified in the form of the logical operation result of a plurality of keywords, for example (umbrella), AND, (weather = rain). A logical operation may be carried out using automatically a keyword etc. which are called a user's personnel information that a personal digital assistant has here, sex, hobby and age.

[0016] Drawing 6 is an explanatory view showing a cooperation function with the map of an event notification window explained by drawing 5. On the terminal display screen 6000, the event notification window 6010 that informs a user about the information about a hat having occurred like drawing 5 opens, and the user is informed about generating of an event.

Here, by touching the map button in a window, it changes to the terminal display screen 6020 and the place of the store informed in the event notification window 6010 is displayed on a map. This puts the coordinates of the store in the data body in drawing 3, and, similarly the personal digital assistant should just display the drawing based on the icon design of the data body information on drawing 3 on this coordinate value. What is necessary is just to display the original icon that a terminal decodes an icon design uniquely or the terminal itself has in the display function of a personal digital assistant, when the icon transmitted by limitation of a pixel number or a color number cannot be displayed.

[0017] Drawing 7 is an explanatory view showing the example which actually uses the manual which rode on the broadcasting information explained by drawing 3. A user looks for a restaurant and this example assumes the case where user would like to perform the reservation. On the terminal display screen 7000, a user gets to know that there was a desired restaurant using the event notification window 6010. Here, if not interested in this restaurant, for example, the procedure after this can be stopped by carrying out the tap of the portions other than event notification window 7010, for example. If a reservation button is touched when interested in this restaurant, it will shift to the terminal display screen 7020, and the map showing the place of a restaurant will be displayed like explanation of drawing 6. If a reservation button is also pushed, the reservation menu 7030 is displayed, and a detailed reservation can be performed. With the reservation menu 7030, an order can be placed from setting out of the date which has a meal, time, and the number, and the shown menu list. After setting up these setting out in editor form, by touching a reservation button, the reservation menu 7040 is displayed, and the check of a reservation content is performed. A reservation procedure is completed by touching a cancel button to cancel a reservation and touching a complete button to reserve. These procedures and menu screens are indicated to the procedure data within the data body information 3051 on drawing 3. Although not represented, since the data in which what stopped the reservation procedure includes a reservation procedure is previously stored by that of the personal digital assistant at once at the memory, for example, it is also possible to display the list of information stored in the memory that is not represented, to call this reservation procedure behind by choosing it and to reserve anew. A user is the stage that touched the reservation button, it connects with the information management computer the restaurant itself or the restaurant has commissioned the information management computer using the telephone connected to the personal digital assistant, and this operation exchanges the mentioned above reservation.

Even when direct continuation of the telephone is not carried out to a personal digital assistant, the user can reserve by displaying a reservation method on a display by being carrying out conversation directly with a store using a neighboring public telephone, looking at the display of a personal digital assistant.

[0018] As other examples of execution of the procedure included in broadcasting information, the function preselection capability of reception of the broadcast in drawing 1 is mentioned too. Broadcasting information is transmitted by the character multiplex channel of FM broadcasting and when it has a function in which the personal digital assistant to receive receives the audio broadcast of FM, as for broadcasting information, the program information of the audio broadcast of FM can be transmitted, and the user can choose and hear a broadcasting station to check and hear program information from on the display of a personal digital assistant. If the genres (a lock, pop, etc.) of the outline are registered preliminary, the coordinated movements that a tuner changes to the office that passes the music of the genre automatically are possible too.

[0019] The automatic cooperation system which will perform reservation and purchase procedure automatically if it agrees on the conditions to which the user set preliminary a reservation of a restaurant, the reservation purchase of goods, etc., and informs a user about a reservation and purchase procedure having been completed separately is also possible. In this case, in the case of the amount of money more than fixed, even if other conditions are satisfied, unless it certainly informs cancellation or a user and a user pushes the button of OK, without carrying out automatic procedure, a device which takes neither a reservation nor purchase procedure is required too.

[0020] Drawing 8 is an explanatory view showing operation of a personal digital assistant when emergency intelligence is received. The personal digital assistant which received emergency intelligence opens the emergency intelligence viewing window 8030 to the terminal display screen 8010. When emergency intelligence was received this, as explanation of drawing 5 described, the user has the structure where emergency intelligence is certainly seen, and the emergency intelligence viewing window 8030 is certainly displayed irrespective of a user's setting out. Here, it is informing that the fire broke out at the nearby station, and transition, a fire site, and the evacuation area in which especially the first-aid center etc. were installed are displayed on the terminal display screen 8020 by touching the evacuation area display button 8040. Or even if it does not touch an evacuation area display button, simultaneously with the display of the emergency intelligence viewing window 8030, switching to the map of an evacuation area is possible too.

[0021] Drawing 9 is an explanatory view showing operation of the personal digital assistant which receives the disaster victim information about reception of disaster information. The name of those who want to know safety is registered into the personal digital assistant by the same method as the filter of drawing 5. When large-scale disasters, such as an earthquake and a fire, occur, also conventionally, it is television broadcasting and a radio broadcast and disaster victims' name and situation are read out, but this is passed for the broadcasting information by this invention, and a personal digital assistant receives the information. When disaster information is broadcast, the message 9020 which shows under a disaster information monitor is displayed on the terminal display screen 9000 of the personal digital assistant. If the name of those who want to know the safety previously registered into the broadcast disaster information is discovered, a personal digital assistant will inform a user about the victim information of the person who opened and specified the injured information-display window 9040 as the terminal display screen 9010. The name of those who want to know the safety registered here may register automatically all the names of the address book which the personal digital assistant has already had, and the name of the person who attached the appointed mark to the address book.

The place of the hospital to which the disaster victim was taken may be displayed on a map or especially in a relative's case etc., when connection is immediately required, it may be coped with, and it may have the composition which cooperates telephone communication with the contact to a hospital or a disaster victim as well as a reservation of the restaurant of drawing 7.

[0022] Drawing 10 is an explanatory view showing the example which transmits the latest information on a map using the information transmitting system by this invention. In drawing 10 (a), as drawing 1 explained, the map information 1100 preliminary inputted into the personal digital assistant 1200 is displayed on the terminal display screen 10000. The absolute coordinate 10300 expressed in the absolute value on the Earth, such as lat/long, as the format of this data is shown, for example in drawing 10 (b), the attribute 10500 which shows the display coordinates 10400 when carrying out a screen display and the thickness of each way, the propriety of passing which carries out distinction of a national highway/general road, and which is classified and mentioned later, etc. is made into a pair, and it includes a certain specific contraction scale. The attribute 10500 shows here the attribute about the way which makes corresponding coordinates the starting point.

The map data which a personal digital assistant has, these data of every contraction scale or display coordinates and an attribute of every contraction scale or although had in the form calculated whenever it changes the contraction scale that displays display coordinates, this is the information preliminary inputted into the personal digital assistant. It is not the newest information on the time of the user walking with the personal digital assistant. Like the terminal display screen 10100 on drawing 10 (a), specifically, only a certain specific period may not be reflected in this map data, when one way is closed by construction etc. In this invention, a personal digital assistant is provided with the newest map information using broadcasting information. Specifically, a line segment like drawing 10 (c) and the personal digital assistant which transmitted a new attribute as a pair and received this information are added and displayed on the end of the map information data in which self has this information. Thus, at this time, after the way of traffic stop was displayed in the state through which it can pass once, when the data of a map information end is read from a memory, a display of that it cannot pass is made like the terminal display screen 10100 of drawing 10 (a). And when CPUs at the time of the power OFF of a personal digital assistant are vacant, the map information in a memory is sorted, and the newest map information is incorporated.

[0023] Drawing 11 is an explanatory view showing how to update a priori the information which a personal digital assistant obtains preliminary in general information, including the information and map information of a store or a restaurant. The personal digital assistant used for the information transmitting system by this invention can have map information and the information on the store of an outline a priori. In drawing 11, a medium like the IC card shown on drawing 1 is used for the information which comes to hand a priori. The personal digital assistant 11020 receives directly through the telephone line 11010 from the host 11000 or after the personal computer (PC) 11040 receives once and the hard disk drive (HDD) 11050 of attachment in PC stores, the form sent to the personal digital assistant 11030 is taken. The format of the data is like 11060 and the source data used as the foundation of all the maps is contained in the head in the version number of the data. The first user to use this service with a personal digital assistant needs to obtain this source data at least at once. The latest information on subsequent has the method of coming to hand directly through the telephone line 11010 with the host 11000 besides the method of coming to hand using broadcasting information like drawing 1. By both receiving the difference data 11070, the latest information can be obtained with small traffic.

The difference data 11070 which came to hand is added to the source data 11060, and is used as the version updater 11080. Although the difference data 11081 within this data is added to the tail end of data, this is sorted timely the time of CPU and within PC11040 like explanation of drawing 10.

[0024] Drawing 12 is an explanatory view showing how to add difference to source data as upgrade. 12000 is the standard example that added difference to source data, and difference data is added one by one with the difference 1, the difference 2, the difference 3. However, when difference is added using the broadcasting information by this invention, a radio wave state may make a reception mistake for intermediate difference for bad reasons. 12010 is the example which made the mistake in reception of the difference 2, and it becomes impossible to use the data after the difference 2 in this case. In this invention, even if intermediate difference falls out, it has a data structure which can use the difference data after it. Namely, in the case where the first difference 1 is attached to source data 12030 like source data +, it is used in the form of the difference 1. Next, when receiving the difference 2, the data of the difference 2 always includes the difference 1. Upgrade becomes possible even if it receives only the difference 2. The difference 2, difference 1+, difference 2- (data in the difference 1 which became unnecessary).

The information that especially absolute values, such as the amount of money, are important takes the method which does not carry out difference, and makes it the structure which prevents a problem. Since it must be considered as ability ready for receiving even if it is necessary to receive certainly and emergency intelligence does not have source data, it is considered as the structure that certainly transmits all the data instead of a difference method.

[0025] In the reception of broadcasting information and the cooperation of a reservation procedure in drawing 7, drawing 13 is an explanatory view showing the method which receives information transmission at the time of communication by a telephone, in order to check the detailed information of information origin again. In the terminal display screen 13000, the restaurant to wish is discovered and it is displayed on a user by the event viewing window 13010. Till the place which displays a place on the terminal display screen 13020 by touching a reservation button, it is the same as that of explanation of drawing 7, and explanation is omitted here. In this example, on the terminal display screen 13020, the information about the restaurant comes to hand through a telephone line by pushing an information button anew, and it has a function to check. The telephone number of a restaurant itself or a restaurant telephones the host computer which has commissioned distribution of information, connects a communication line, and obtains the detailed information 13030 and 13040 about this restaurant where it was specifically the terminal display screen 13020 and the personal digital assistant was indicated to broadcasting information when the information button was pushed. A user reads this information (1 page or a plurality of pages), judges whether it reserves after that, pushes a reservation button, and goes into a reservation procedure like explanation of drawing 7.

[0026] Drawing 14 is an example of an operation flow of the personal digital assistant of the information transmitting system by the above this invention. First, an input (14010) and reception of data are started for the map information of drawing 1, and the filter information which showed drawing 5 the basic data of version #1 in drawing 11 after acquisition (14000). If generated by received data (14020), like drawing 2, the classification of received data will be checked first (14030) and the procedure which was alike, respectively and was defined preliminary will be performed according to the classification of received data (14040). In this example, a procedure is the execution 2 (14080) of the alarm (14070) that informs a user the memory (14050) of receipt information, presenting (14060) of receipt information, and generating of receipt information, and the manual which each receipt information itself has.

Accepting necessity in these one or more than one procedures are performed. Like the event notification window 5030 of drawing 5, the display 14060 displays a dialog window (14090) and includes input waiting (14100) of the button in a dialog here. If the input waiting of this button does not have an input of fixed time by a timer, the display of a window will be ended automatically.

[0027] [Effect of the invention] According to above, in these inventions, while the user is walking along the town, the newest information about the town can be obtained freely, without accessing from a user. And it is not necessary to connect between a user's personal digital assistant and hosts with an occupancy circuit of 1 to 1 like a cellular phone, and enables many users for information to come to hand simultaneously by transmitting information to one way and many and unspecified partners in this case. The form which has obtained only the information which the user requested by filtering received data within a terminal when seeing from the user can be taken, and the user does not need to eliminate unnecessary information by himself. The procedure according to the kind of received information by performing automatically And the preservation to the temporary memory of information, cooperation called the automatic reservation procedure of a restaurant can be taken based on the information which the emergency intelligence which shows a user information instancy transmitted and obtained, and the information transmitting system which is easy to use for a user can be provided.

[Brief description of the drawings]

[Drawing 1] is a block diagram showing the composition of the whole information transmitting system by this invention.

[Drawing 2] is a block diagram showing the information flow inside the personal digital assistant used with the information transmitting system by this invention.

[Drawing 3] is an explanatory view showing the example of the contents of the information which the information transmitting system by this invention transmits.

[Drawing 4] is a block diagram showing the hardware constitutions of the personal digital assistant by this invention.

[Drawing 5] is an explanatory view showing operation with the structure of the filter of the personal digital assistant by this invention.

[Drawing 6] is an explanatory view showing a cooperation function with the map of an event notification window.

[Drawing 7] is an explanatory view showing the example which actually uses the manual which rode on broadcasting information.

[Drawing 8] is an explanatory view showing operation of a personal digital assistant when emergency intelligence is received.

[Drawing 9] is an explanatory view showing operation of the personal digital assistant which receives disaster victim information.

[Drawing 10] is an explanatory view showing the example which transmits the latest information on a map.

[Drawing 11] is an explanatory view showing how to update the information which comes to hand preliminary in a personal digital assistant.

[Drawing 12] is an explanatory view showing how to add difference to source data as upgrade.

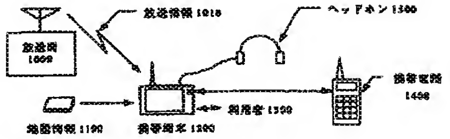
[Drawing 13] is an explanatory view showing the method which receives information transmission at the time of communication by a telephone in reception of broadcasting information, and cooperation of a reservation procedure, in order to check the detailed information of information origin again.

[Drawing 14] is an example of an operation flow chart of the personal digital assistant of the information transmitting system by this invention.

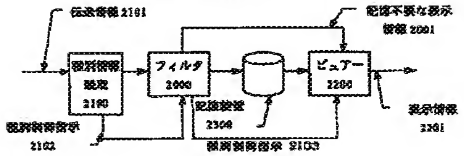
[Description of numerals]

1000 Broadcasting station
1010 Broadcasting information
1100 Map information
1200, 11020, 11030 Personal digital assistant
2000 Filter
3000 Data transmitting
3021 Type information
3051 Data body information
5000 Filter table
5010 Event threshold
5030, 6010, 7010, 13010 Event-notification window
7030, 7040 Reservation menu
8030 Emergency intelligence viewing window
9040 Injured information window
10300, 10600 Absolute coordinate
10500, 10700 Attribute
11000 Host
11010 Telephone line

Drawing 1

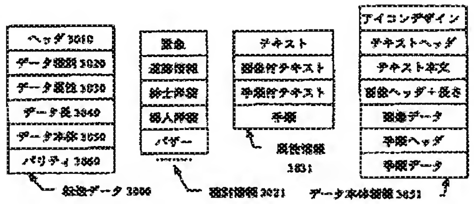

放送局 1000
放送情報 1010
ヘッドホン 1300
携帯電話 1400
利用者 1500
地図情報 1100
携帯端末 1200

Drawing 2

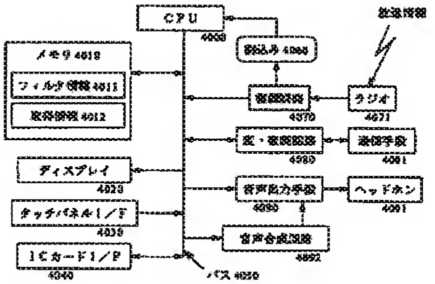

伝送情報 2101
記憶不要な表示情報 2001
フィルタ 2000
ビュアー 2200
2100
記憶装置 2300
表示情報 2201
2102
2103

5 1 3 1 4

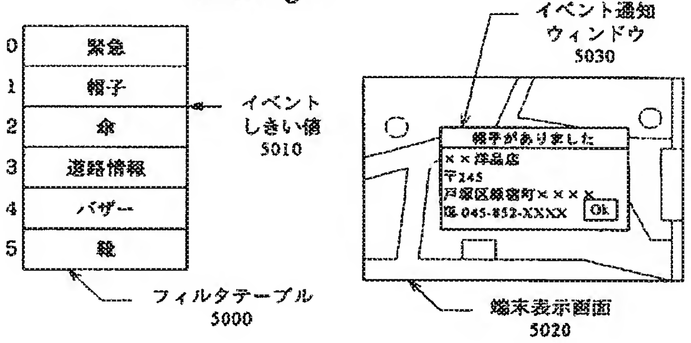
Drawing 3


ヘッダ 3010
データ種別 3020
データ長 3040
データ本体 3050
パリティ 3060
放送データ 3000
緊急
道路情報
バザー
テキスト
手順
データ本体情報 3051
アイコンデザイン
テキストヘッダ
テキスト本文
画像データ
手順ヘッダ
手順データ

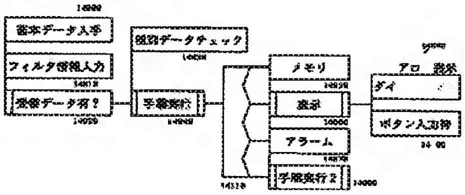
Drawing 4


CPU
4000
メモリ 4010
フィルタ情報 4011
4012
放送情報
ラジオ
4070
4071
4080
通信手段
4081
ディスプレイ
4020
音声出力手段
4090
ヘッドホン
4091
タッチパネルI/F
4030
音声合成回路
4092
ICカードI/F
4040
バス 4050

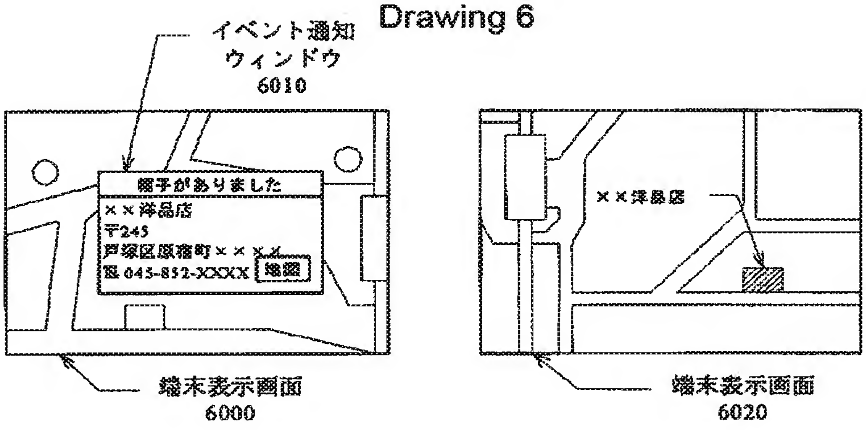
Drawing 5


0
緊急
1
帽子
2
傘
3
道路情報
4
バザー
5
鞄
イベントしきい値
5010
フィルタテーブル
5000
イベント通知ウィンドウ
5030
帽子がありました
××洋品店
〒245
戸塚区緑宿町×××
☎045-852-XXXX
Ok
端末表示画面
5020

Drawing 14

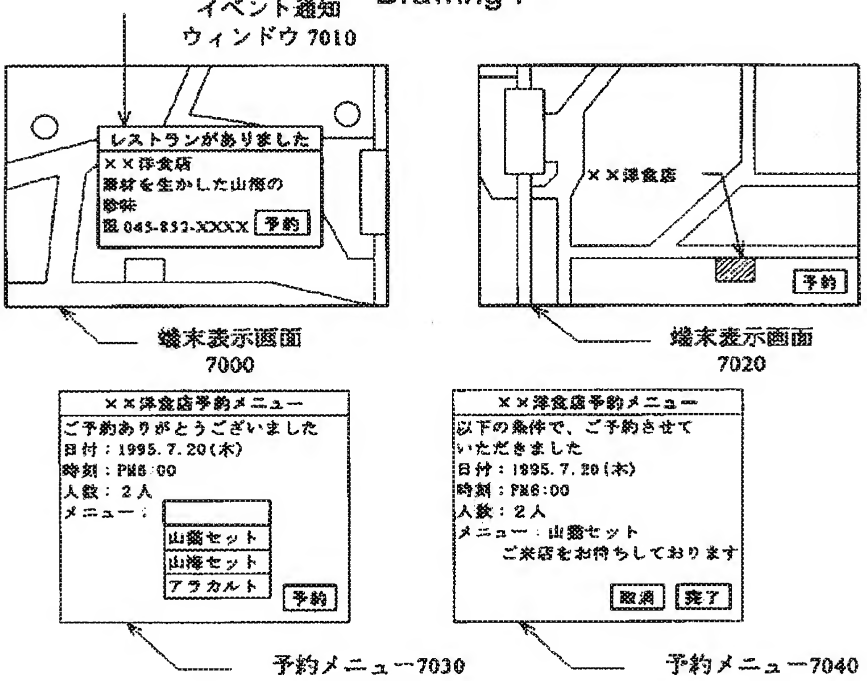

端末データ入手
フィルタ情報入力
データチェック
データ有？
メモリ
表示
アラーム
手順実行2
アロ
ダイ
ボタン入力待

Drawing 6


イベント通知
ウィンドウ
6010
端末表示画面
6000
端末表示画面
6020
地図
××洋品店

帽子がありました
××洋品店
〒245
戸塚区原宿町××××
℡ 045-852-XXXX

Drawing 7

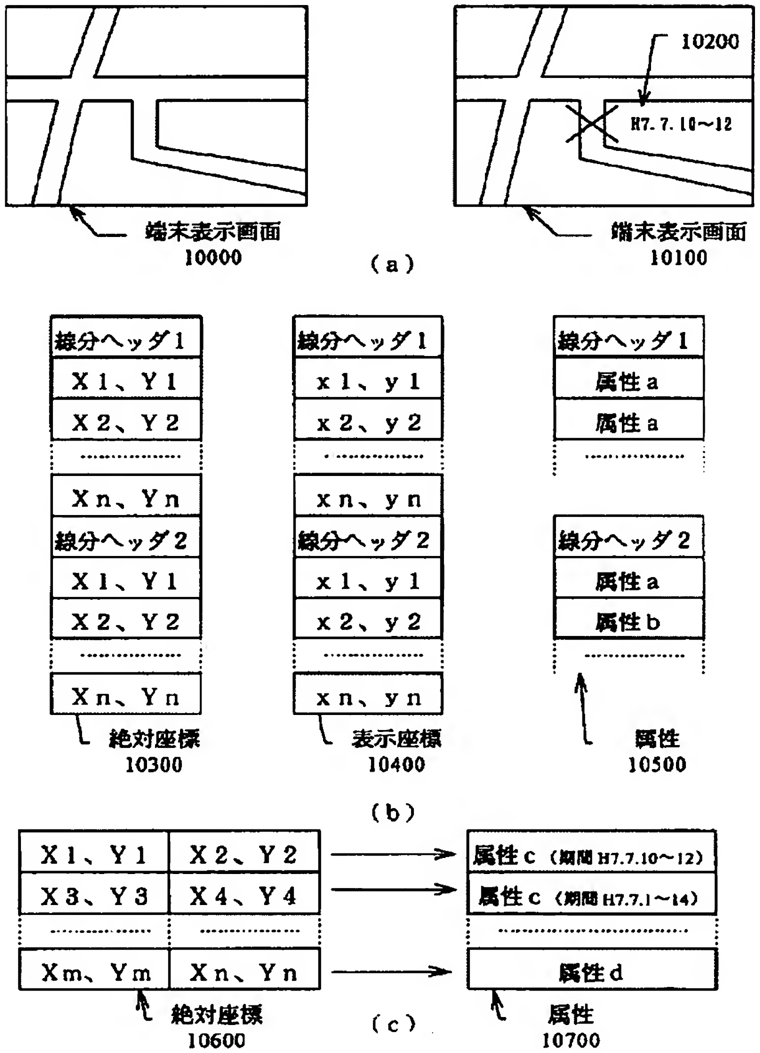

イベント通知
ウィンドウ 7010
端末表示画面
7000
端末表示画面
7020
予約
××洋食店
予約
予約
取消
完了
予約メニュー7030
予約メニュー7040

レストランがありました
××洋食店
素材を生かした山海の
珍味
℡ 045-852-XXXX

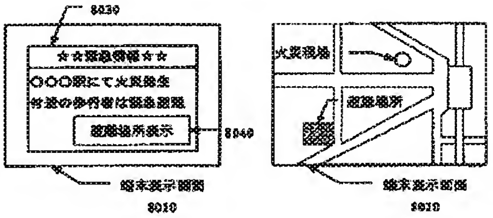
××洋食店予約メニュー
ご予約ありがとうございました
日付：1995.7.20(木)
時刻：PM8:00
人数：２人
メニュー：
山菜セット
山海セット
アラカルト

××洋食店予約メニュー
以下の条件で、ご予約させて
いただきました
日付：1995.7.20(木)
時刻：PM6:00
人数：２人
メニュー：山菜セット
ご来店をお待ちしております

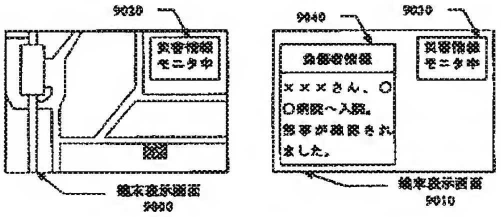
Drawing 10


10200
H7.7.10~12
端末表示画面
10000
端末表示画面
10100
(a)
線分ヘッダ1
X1、Y1
X2、Y2
Xn、Yn
線分ヘッダ2
X1、Y1
X2、Y2
Xn、Yn
絶対座標
10300
線分ヘッダ1
x1、y1
x2、y2
xn、yn
線分ヘッダ2
x1、y1
x2、y2
xn、yn
表示座標
10400
線分ヘッダ1
属性a
属性a
線分ヘッダ2
属性a
属性b
属性
10500
(b)
X1、Y1
X2、Y2
X3、Y3
X4、Y4
Xm、Ym
Xn、Yn
絶対座標
10600
属性c（期間 H7.7.10~12）
属性c（期間 H7.7.1~14）
属性d
属性
10700
(c)

Drawing 8

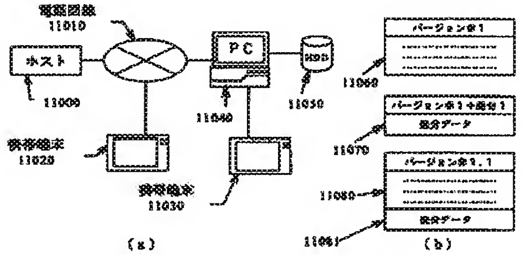

8030
☆☆緊急情報☆☆
○○○駅にて火災発生
付近の歩行者は緊急避難
避難場所表示
8040
端末表示画面
8010
火災現場
避難場所
端末表示画面
8010

Drawing 9

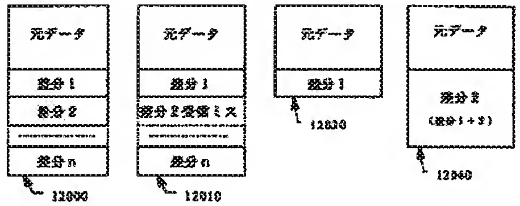

9030
災害情報
モニタ中
端末表示画面
9000
9040
9030
安否情報
災害情報
モニタ中
端末表示画面
9010

×××さん、○○病院へ入院。無事が確認されました。

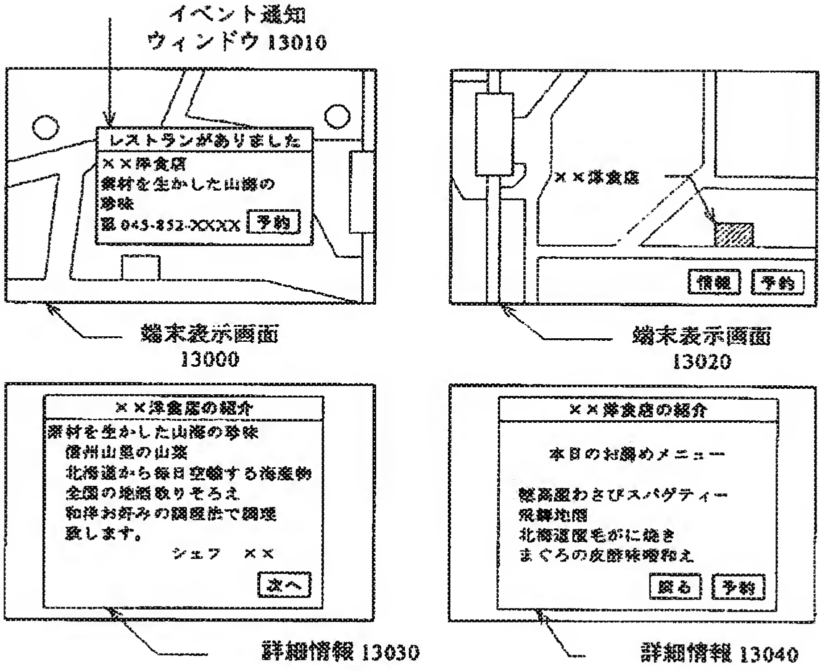
Drawing 11


電話回線
11010
ホスト
13000
PC
HDD
11040
11050
携帯端末
11020
携帯端末
11030
(a)
バージョン#1
11060
バージョン#1＋差分1
差分データ
11070
バージョン#1.1
11080
差分データ
11081
(b)

Drawing 12


元データ
差分1
差分2
差分n
12000
元データ
差分1
差分2受信ミス
差分n
12010
元データ
差分1
12030
元データ
差分2
(差分1+2)
12040

Drawing 13


イベント通知
ウィンドウ 13010
レストランがありました
予約
端末表示画面
13000
××洋食店
情報
予約
端末表示画面
13020
次へ
詳細情報 13030
戻る
予約
詳細情報 13040

××洋食店
素材を生かした山海の珍味
☎ 043-852-XXXX

××洋食店の紹介
素材を生かした山海の珍味
信州山里の山菜
北海道から毎日空輸する海産物
全国の地酒取りそろえ
和洋お好みの調理法で調理致します。
シェフ ××

××洋食店の紹介
本日のお勧めメニュー
鮭高菜わさびスパゲティー
飛騨地鶏
北海道産毛がに焼き
まぐろの皮酢味噌和え